

Brown Medical School/The Miriam Hospital

Project Name ...

The PAQS Project

Principal Investigator ...

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Background / Significance of Problem ...

The PAQS project (Parents of Asthmatics Quit Smoking) contrasts two theory-based smoking cessation interventions for parents of children with asthma and compares mechanisms of behavior change. We hypothesize that enhancing the perception of risk to self and child will motivate smoking cessation more than standard approaches in a population that is largely not motivated to quit smoking. Smokers ($n=288$) and their asthmatic children who receive nurse-delivered in-home asthma education (as part of the insurance carrier's standard of care) are randomized into one of two treatment conditions: 1) The Behavioral Action Model (BAM), in which nurses emphasize goal-setting and skill building to enhance self-efficacy to quit smoking, or 2) The Precaution Adoption Model (PAM), in which nurses tailor the intervention to the smoker's readiness to quit and incorporate biomarker feedback (i.e., level of Carbon Monoxide exposure to the smoker and level of Environmental Tobacco Smoke [ETS] exposure to the child) in order to increase risk perception. In both conditions, smokers who are ready to quit receive the nicotine patch.

Research Question ...

- PAM will outperform BAM on: Change in motivational readiness to quit; biochemically verified 7-day point prevalence abstinence; reduction of ETS; and number of quit attempts.
- The mediators of behavior change proffered by the PAM theory (e.g., risk perception) will change differentially in those receiving PAM vs. those receiving BAM. BAM mediators (e.g., self-efficacy) will be specifically sensitive to the BAM intervention.
- We hypothesize that the above ETS and smoking outcomes for caregivers will, in turn, result in a variety of improvements in asthma outcomes.

Findings To-Date ...

- **Characteristics of the Sample:** To date, 209/288 participants have been recruited and completed a baseline questionnaire. The average age is 32.2 years (± 8.3) and 89.5% are female. Forty percent were never married, 40% are currently married, engaged or living together, and 20% are divorced/separated. The ethnic composition of the sample is: 53% White, 22% Black, 19% Hispanic, 2.0% American Indian, and 2% Cape Verdean. Thirty percent are employed full-time, and the majority reported incomes of less than \$20,000 per

year (67%). The average number of cigarettes smoked per day is 14.4 (± 9.3) and the average score on the Fagerstrom Test from Nicotine Dependence was 6.2 (± 1.4). The mean score for the CESD was 18.4 (± 11.8), a level that exceeds the cut-off for depression.

- The average age of the child with asthma was 5.9 (± 4.8) with a range of less than one year old to 17 years of age. On average, children had mild asthma, 9 days of asthma symptoms in the previous month (± 10.83) and missed an average of 5 days of school due to asthma in the previous year (± 8.88). 58% of parents reported that their child had ever received oral steroids for asthma, 9% endorsed a history of a respiratory arrest due to asthma, and 5% indicated a history of intubation for asthma. Furthermore, at baseline, 61% of the sample reported that their child had been seen in the ER in the previous year for asthma and 33% reported that their child had been hospitalized for asthma in the previous year.
- **Smoking Outcomes for Caregivers** (at 2-month follow-up):`

	<u>Education</u>	<u>Counseling</u>
7-Day Point Prevalence Abstinence	14.3%	28.6%
Continuous Abstinence	9.5%	14.3%
Attempted to Quit	66.7%	81.0%
Used Nicotine Patch	57.1%	70.0%
Requested Nicotine Patch	35.0%	49.0%

None of the above differences were significant, likely due to lack of power. We are continuing to recruit and follow-up with our sample.

- **Asthma Outcomes for Children:** At baseline and end of treatment, parents were asked to report on the frequency of their child's asthma symptoms in the past month, including episodes of wheezing, nighttime coughing, early morning symptoms, severe symptoms, and activity and sports limitation due to asthma. No group differences were found at baseline, but at the end of treatment, the Education group reported a higher mean asthma symptom score than the Counseling group though this was not significant.
- We also assessed asthma-related healthcare utilization (e.g., ER visits in past month, days hospitalized in the past month, doctor visits past month) and school absences via parental report at baseline and end of treatment. No baseline group differences were found in healthcare utilization, school absences, ER visits, or hospitalizations. At end of treatment, the Counseling group reported fewer ER visits ($p < .05$) and fewer doctor visits for asthma in the previous month ($p < .03$). No other group differences at the end of treatment were found.

Implications ...

[for multibehavioral and multi-theoretical approaches to behavior change]

Our research compares an intervention based on the precaution adoption model, which aims at increasing risk perception, vs. a standard care intervention based on social cognitive theory, which aims at increasing goal setting and self-efficacy. We hypothesize that the intervention condition will outperform the standard care condition, and that risk perception will change differentially in the intervention vs. standard care condition. Preliminary analyses are underway.

Future Research Directions ...

We will examine our intervention's effect on other variables, such as reduction in ETS.